Mathematics

Standards	Descriptors
Applies strategies to solve problems **Uses efficient strategies when computing** **Communicates using mathematical vocabulary, numbers, and representations**	**Number Sense and Operations** ❑ Create and label sets of objects from 0 - 100. ❑ Demonstrate an understanding of the concepts of place value (ones, tens, and hundreds) to 1,000 using manipulatives. ❑ Write dictated whole numbers from 0 - 1,000 with correct place value. ❑ Identify and distinguish among multiple uses of numbers including cardinal (to tell how many, 1-1000) and ordinal (to tell which one in an ordered list, to 1000th), and numbers as labels and as measurement. ❑ Read, write, compare (>, <, =, odd, even), and order whole numbers to 1,000. ❑ Identify odd and even numbers and determine whether a set of objects has an odd or even number of elements. ❑ Predict whether a simple addition problem will have an even or odd answer. ❑ Identify the value of all U.S. coins, and $1, $5, $10, and $20 bills. Find the value of a collection of coins and bills and different ways to represent an amount of money up to $5. Use appropriate notation ($0.69, $1.35) ❑ Write a number sentence to represent visually presented addition or subtraction problems (acted out or in pictures) (0-100) ❑ Use mental math to add and subtract whole numbers to 20. ❑ Add or subtract one-, two-, and three-digit numbers using pencil and paper, and an appropriate algorithm with and without regrouping (traditional procedures) ❑ Explain and demonstrate the relationship between addition and subtraction (fact families). ❑ Use the appropriate operation (addition or subtraction) to solve single-step problems. ❑ Demonstrate an understanding of addition and subtraction of numbers 10-20. ❑ Know addition facts (addends to 10) and related subtraction facts, and use them to solve problems. ❑ Demonstrate an understanding of the concepts of addition and subtraction of any two- and three-digit numbers 0-999 by adding and subtracting 3 digit numbers accurately (with and without regrouping). ❑ Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition (two 3-digit numbers and three 2-digit numbers) and subtraction (two 3-digit numbers) (with and without regrouping). ❑ Estimate a logical solution to a problem and recognize when an estimate is appropriate ❑ Estimate sums and differences when working with quantities, measurement, and computation to 100. ❑ Explain how an estimate differs from an actual calculation ❑ Round whole numbers through 1,000 to the nearest 10 and 100. ❑ *Demonstrate an understanding of the concepts of place value (ones, tens, and hundreds) to 10,000 using manipulatives.* ❑ *Identify and represent common fractions (1/2 to 7/8) as parts of wholes, parts of groups, and numbers on the number line.* ❑ *Use the terms "numerator" and "denominator" correctly* ❑ *Add simple fractions with like denominators using manipulatives (1/4 + 2/4 = 3/4)*

	Patterns, Relations, and Algebra ❑ Identify, extend, and construct a variety of rhythmic, shape, size, color, letter, number, verbal, and visual patterns up to five elements. ❑ Identify and extend a two-element numerical pattern up to 100. ❑ Describe various patterns on a number chart 1 - 100. ❑ Describe and create addition and subtraction number patterns (1, 4, 7, 10 …; or 25, 23, 21). ❑ Skip count by twos, fives, and tens to 100, starting at any number. ❑ Construct and solve open sentences that have missing addends and subtrahends (up to 1,000) ❑ Write number sentences using +, -, <, =, and/or > to represent mathematical relationships in everyday situations (up to 1,000) ❑ Describe functions related to trading, including *2c = 1pint, 4 c =1 qt*., 1 ft. = 12 in., 4 quarters = $1.00., 7 days = 1 week
	Geometry ❑ Describe attributes and parts of two- and three-dimensional shapes (corners, edges, faces and sides) ❑ Identify, describe, draw, and compare two-dimensional shapes including both polygons (up to six sides) and curved figures, such as circles ❑ Recognize congruent shapes (see above) ❑ Describe the direction (left, right, up, down) ❑ Identify various forms of symmetry in two-dimensional shapes (lines of symmetry, *rotational symmetry*) ❑ Predict and confirm the results of putting shapes together and taking them apart. ❑ Relate geometric ideas to numbers (seeing rows in an array as a model of repeated addition) ❑ *Use the term "congruent" correctly* ❑ *Demonstrate flips, slides, and turns with manipulatives.* ❑ *Identify shapes that have been turned, flipped, slid, and enlarged.*

	Measurement ❑ Identify parts of the day (morning, afternoon, evening), days of the week, and months of the year. Identify dates using a calendar. ❑ Relate specific months to the seasons ❑ Tell and record time to the half hour, and quarter hour using an analog or digital clock, and using a.m. and p.m. ❑ Compare length, weight, area, and *volume* of two or more objects by using direct comparison. ❑ Select and correctly use the appropriate measurement tools (ruler, balance scale, thermometer). ❑ Make and use estimates of measurement, including time, *volume*, weight, and area. ❑ Use a standard ruler to measure to nearest half-inch. ❑ *Measure and compare common objects using metric and English units of length measurement (36", 1 m, 100 cm)* ❑ *Measure to the nearest half- inch and nearest centimeter.*
	Data Analysis, Statistics, Probability ❑ Use interviews, surveys, and observations to gather data about themselves and their surroundings. ❑ Organize, classify, represent, and interpret data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representations. ❑ Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data. ❑ With guided discussion, decide which outcomes of experiments are most likely